



THE OFFICIAL JOURNAL OF THE RADIO ASSOCIATION OF ERIE
JANUARY
1995
QUA RAE

The Radio Association of Erie is a non-profit club serving the tri-state area by providing emergency communication during a civil disaster, as well as providing communication support for public service events. The club meets 7:00 PM on the first Thursday of each month at the Red Cross Chapter House, 4961 Pittsburgh Avenue, Erie, PA. Membership is open to any person interested in amateur radio. For membership information, contact Bob Schwimer, K3FAR at 866-3027. Area nets: Tri-State RACES Emergency Net is conducted weekly on 146.61 MHz Sundays at 6:30 PM; ARCS/STYWAR Net on 146.61 MHz Sundays at 9:30 PM; RAE Novice/Technician Net on 28.400 MHz Wednesday at 8:30 PM; 6 Meter AM Net Wednesday at 9:00 PM on 50.52 MHz; 10 Meter RTTY Net on Friday at 8:30 PM on 28.280 MHz.

NEXT SCHEDULED MEETING OF R.A.E.
7:30 PM on January 5th, 1994
at RED CROSS BUILDING

Radio Association of Erie
 Post Office Box 844
 Erie, PA 16512

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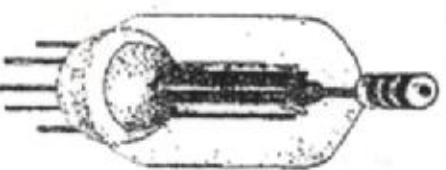
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Art Paavola, D.V.M. Tom McClain, D.V.M. Jeff Paavola, D.V.M.

Repeater Operating Procedures

Operating procedures is a tough subject. I know I'm going to offend some operators, so be it. There are many new members and folks who use our repeaters. Many of us from new to old walk through a minefield of operators; from being excellent and considerate hams, to others who can be both rude and surly. We sometimes get mad at such behavior, however it does little good to berate the offender on the air unless it is such a faux-pas that it demands attention on the spot.

The best way to handle poor operators is to give them a phone call. Don't fly off the handle if this is your chosen recourse. Explain the situation to the operator in diplomatic terms. The cardinal rule is not to make the operator feel like an idiot, especially if you choose to handle it on the air.

1. Identify every 10 minutes
2. Don't break in on a QSO asking to make a call and then carry on your QSO completely ignoring the parties that had the frequency in the first place.
3. If you can work simplex, do it; make contact and relinquish the repeater.
4. Please do not use foul language. Not only is it poor taste, but there are a lot of scanner monitors. What are they going to think about our club, and ham radio?

Take Care,

Mike, N3KFT

President's Corner
Sue Seyboldt, N3LPO

Happy New Year to one and all. I would like to say thank you for voting me in as president of the R A E, and I will do my best to uphold the high standards of the club.

If all of us pull together and eliminate the turmoil that is going on in the club right now we will be able to have another great year, and keep FUN as the primary goal of the club.

The officers and I had a meeting last week to plan the programs for the monthly meetings in the upcoming year. The January meeting will be preceded as usual with coffee and waists expanding goodies so be there to join the rest of us in keeping the local economy alive and well. The officers can not run this club alone, you the members have to stand up and voice your ideas and wants for the forth coming year. If you can't make the meetings please feel free to call any of the officers at home and express your opinions. We are here for YOU so please don't become part of the silent majority join in and help us make the necessary changes.

The coffee making crew has retired and moved on to bigger and better things. Hillary feels that he will have his hands full and it would be in the best interest of the club if someone else would take over the duties of making coffee to keep us from falling asleep during the long meetings.

Just a reminder to the HFers in the club the Novice Roundup starts on January 28th and runs thru February fifth. The activity has been down the last few years so jump in and help get the newer operators off on the right foot.

Once again I would like to express my thanks and will be looking forward to seeing all of you at the next meeting.

Sue Seyboldt
N3LPO



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Eric N3PQM Radio Shack K-Mart west Plaza 833-9404

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Volunteer Examiner's Report

Upgrading in December at Villa Maria was Albert Yacobozi N3NHX of Erie, who passed Amateur Extra.

Gaining their first license and awaiting a call were Arnold Smrcka of Union City, Amy Vasu of Chagrin, Ohio and Gary Hillwig of Parker, Pa., and the licenses will be Technician.

Exams of December 4 were received by the ARRL/VEC office on December 7, and results were sent to the FCC on December 9. As previously indicated by the VEC office, exams were immediately processed and results moved to the FCC office.

This change resulted in time saved of a possible 18 day wait at the VEC office, and this time did vary. The 12 week counting time for arrival of a new license from the FCC, did not begin until arrival of exam results at the FCC office.

Please remember that any current license and/or Certificate of Completion copies must accompany your 610 form or the FCC will refuse to issue the license.

We vary much appreciate the efforts of your QUA-RAE editor in repeating this message monthly, to assure that your new licenses would not be

delayed by lack of any current copies.

We regret that Gene N3RKN must give up the position as editor, as mentioned in our last QUA-RAE, and I know that you will all join me in wishing him the best.

The next test session for Novice through Amateur Extra exams at Villa Maria Center will take place on Saturday, January 7, at 8 A.M. Located at 2551 W. 12th Street, parking is available at either end of the grounds, and a free standing orange sign indicates the correct entrance.

Bring any current license, plus a copy of the license, and any current Certificate of Completion, plus a copy of the Certificate. The FCC requires that any current copies be furnished to them, and will not process the 610 form without the copies.

For any further information, contact me at (814) 665-9124.

Norma Vanderhoff, W3CG
ARRL VE Liaison

A.R.E.S.

The following is from The W5YI Report Volume 16, Number 23 December 1, 1994:

EMERGENCY BROADCAST SYSTEM REPLACED
- Twenty second tone gets reduced to eight seconds!

After more than three years of consideration, the FCC has acted to replace the current Emergency Broadcast System (EBS) with a new Emergency Alert System (EAS).

The digital EAS will work with both new and established communications technologies, including satellite, broadcast and cable, to make the disaster warning system more effective. The new EAS emphasizes speed, reliability, and efficiency.

The Commission said "...the new system will have the ability to alert the public more quickly and reliably than the old EBS and will reduce property damage, injuries, and deaths caused by natural and man-made disasters."

Broadcasters were required to take part in the old EBS and likewise must participate in the new EAS. The 1992 Cable Act mandated that cable operators join the Emergency Alert System.

The participation of smaller cable systems, satellite and other public service providers, however, will be voluntary pending resolution of a Further Notice of Proposed Rule Making adopted on November 10th.

Major new features of the EAS include:

1. a digital system architecture that will allow broadcast, cable, satellite and other services to send and receive alerting

- information;
2. multiple source monitoring for emergency alerts;
 3. a shortened (minimum 8 second) alerting tone;
 4. automated and remote control operations;
 5. a weekly (inaudible) test that is unobtrusive to viewers and listeners, as well as a monthly on-air test;
 6. ability to issue alerts in languages other than English;
 7. provisions for the hearing and visually impaired;
 8. prohibition of the false use of the codes and the alert signal;
 9. a mandated standard for sending messages.

Radio and television broadcasters will be required to replace EBS equipment with EAS equipment by July 1, 1996. Stations also will need to modify their current equipment to decode the 8-second version of the present EBS tone by next summer. It is expected that new EAS decoding modules will cost radio broadcasters about \$1,000, television broadcasters somewhat more.

Because the cable industry is new to automated emergency alerting, the Commission granted cable systems an additional year (to July 1, 1997) to install "video interrupt" EAS equipment.

From the W5YI Report.

I thought the above might be of interest, especially to ARES members.

73

Tom McClain N3HPR
Emergency Coordinator

A HAMS RESOLUTIONS FOR A HAPPY NEW YEAR!

- . I will always use correctly, the terms "mobile" and "portable".
- . I will always send CW at the speed of the receiving operator.
- . I will always listen on a frequency before I transmit.
- . I will not break in on a conversation unless I have something significant to contribute.
- . I will not "kerchunk" repeaters.
- . I will always make certain my microphone is not transmitting inadvertently.
- . I will be tolerant and helpful to all regardless of class or license.
- . I will not use profane language on any mode.
- . I will be courteous and cooperative when working DX and contests.
- . I will always preserve the dignity of ham radio by being tolerant, courteous and helpful to all.

These are some of the resolutions which could be made for the coming year. Undoubtedly, there are others which could be made in the effort to improve personal transmitting skills. Resolve to keep them throughout the year 1995! 73 NI3Q

STATEMENT OF THE RAE BOARD OF DIRECTORS TO MEMBERS

Your board of directors has reviewed the events that occurred during the 1994 annual meeting held in November. There was considerable confusion regarding the procedures to follow for the election of officers and board members.

The decision made by the election committee to follow the current RAE bylaws and not to follow past election traditions appeared necessary when the point of order was called for from the floor.

This appeared to be the correct parliamentary procedure to follow at that time. The bylaws are made to protect all members of the club and therefore should be carried out to the best of our ability.

The board further states that the remarks printed in the December 1994 issue of the Qua-RAE by the editor of the Qua-RAE and by the club president, and comments by various persons on amateur radio frequencies, are their personal opinions and in no way reflect the feelings of the RAE Board of Directors.

We have a good slate of officers and board members for 1995. Let's not lose sight of what our purpose is and what our club stands for by showing our support to your newly elected officers and board members.

The RAE Board of Directors

(Statement unanimously approved at full RAE Board meeting December 15, 1994)

Are You Really Portable??

A review of basic operating practices might be in order after hearing some local operators signing "portable" while sitting at their dining room table, on their front porch, walking, riding bicycles, etc.

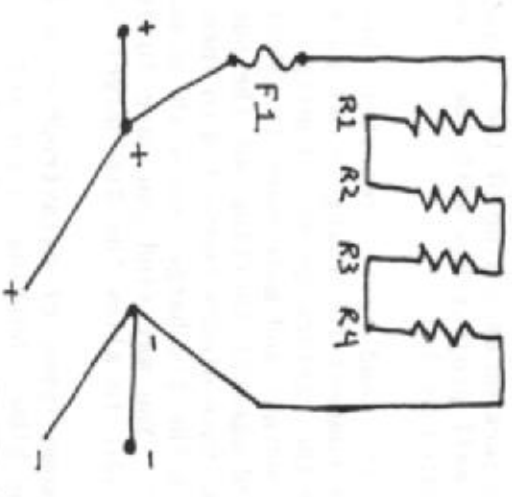
This is NOT the correct use of the word portable. Although the signing of the word "portable" or "mobile" is no longer REQUIRED by the FCC, it is not a reason to stray away from the correct use of these terms. Basically, 97.3 states that if you are at the address on your station license you are at a fixed location, and are not "portable" or "mobile". "Mobile" is being temporarily away from your station license address such as driving around, walking, and yes, even stopping for lunch at a local restaurant. "Portable", on the other hand, is being away from your station license address, and at an identifiable location, for an extended period of time. Examples include such things as going to camp, vacationing in Florida, students away at college, etc.

At the time these rules were in effect the FCC was not interested if you were operating a handheld (considered by some to be portable), but instead wanted to know where you were if you committed an infraction of the rules.

So let's reserve the use of the word "portable" for those wishing to identify that they are away from their station license address, and are in our area for an extended period of time.

Dick, KV3D

Parts List:
Resistors:
R1 10 ohm, 10 watt
R2 1 ohm, 10 watt
R3 1 ohm, 10 watt
R4 1 ohm, 10 watt
Fuse:
F1 2 amp
Jacks:
J1 Red Tip Jack
J2 Black Tip Jack



Discharger Schematic
Crude Drawing #1

If you're real long winded (you know who we are!), you could conceivably cycle the pack by continuously transmitting until it became discharged. But in the interest of those on the receiving end, and your finals, I'll show you a better way. Building a simple discharging circuit for a Nicd pack is easy, and using it is even easier, so that's what we'll do. First, a bit of "Ohms Law in action" will be required. The average HT pack is 7.5v, and has a capacity of 600mah. We would like our discharger to complete its task in a reasonable amount of time, and yet not generate any smoke (or flame!). Something like an hour is about right. You don't have to be a rocket scientist (maybe not even a ham radio operator) to figure out that to discharge a 600mah pack in 1 hour will require a discharge current of about 600ma. Now for the math:

$$\begin{aligned}\text{Ohms Law: } E(\text{Volts}) &= I(\text{Current}) \times R(\text{Load in Ohms}) \\ \text{Our situation: } 7.5\text{v} &= .6\text{a} \times R(\text{Load in Ohms}) \\ \text{Solving for R: } 7.5/.6 &= R \\ \text{Thus R} &= 12.5 \text{ Ohms}\end{aligned}$$

So we need a 12.5 Ohm resistive load for our discharger to drain our pack in 1 hour. The best way to build a resistive load I know of is to use a resistor. This is the part of most articles where the author tells you how he went to his junk box and "right there on top was a gold plated full wave, non inductive, recto-whosowhatis". Well my junk box got lost 2 years ago when we moved here (I actually suspect my wife intentionally threw it out!), so I went to a radio parts store to buy some resistors. We need resistors with a sufficient capacity to work without the aforementioned flame, however, so I purchased 10 watt ceramic resistors to be safe and also because that's all they had. I got (1) 10 ohm and (3) 1 ohm for the requisite resistance (13 is plenty close enough to 12.5 for this project). While there I purchased a fuse holder and a 2 amp fuse (also to be safe) and 2 tip jacks to allow my voltmeter to monitor the pack voltage. I assembled this contraption on a piece of perfboard since things like this left laying on my workbench always get broken or manage to short themselves out at an inopportune time. Simply space the resistors about 1/8 inch apart and wire them in series. Put the fuse holder with the 2 amp fuse in series with the resistors and attach one tip jack on each side of the resistor bank. Lastly, I encased the whole works in a small project box with the 2 leads protruding out one side and the tip jacks mounted on top.

Now that we have the load built (remember these values only work for 6 cell packs!) we need to connect the thing to our pack. There are lots of ways to do this depending on the particular pack configuration. Devise some method which ensures positive contact and make sure it CANNOT possibly short out, since the fuse will not guard against shorting out the pack contacts. Also remember that some charging jacks have diodes connected to them to prevent accidental discharge so be sure to check the discharge rate with an amp meter to make sure everything works as expected. You may find you have to use the contacts where the pack connects to the radio to allow the discharger to work.

In the event of some types of catastrophic failure (wrong resistors, wiring, etc.) the fuse may blow. Nothing in the world is fool proof however, and your author takes absolutely no responsibility for any of the many thousands of things which could possibly go wrong with this project. So...if your cat chews the cord

and gets electrocuted or something, call a veterinarian, not me. If you don't fully understand the concepts presented, you are well advised to get additional help BEFORE something happens.

To use the thing, first fully charge the pack. Next, connect one lead of the discharger to your pack and put an amp meter in series between the other discharger lead and the other contact on the pack. This will allow you to determine the actual discharge current. Then you can remove the amp meter and connect the discharger directly to the pack and just monitor the pack voltage through the jacks until the voltage gets to about 6.6 volts. If you time the process and multiply the discharge time in hours by the discharge current in amps, you can determine the actual capacity of your pack. You may now recharge the pack using your regular charger.

When I did this, my ammeter read .530 amps (due probably to resistor tolerances). The first pack I tried had a stated capacity of 900 mah rather than 600 but the discharger still works as long as the pack is still 6 cells. The starting voltage at the beginning of the cycle was 7.40 volts. Using my digital volt meter with computer port I sampled the voltage at 30 second intervals and recorded the value with my computer. This allowed me to graph the results. Now for those of you who are saying "Guy, get a life", this useful exercise will show graphically if you have a bad cell. You simply note on the graph where the plateau of the voltage readings are. The plateau will always be approximately some multiple of 1.1 volts so if you divide the plateau voltage by 1.1 you will wind up with the number of good cells in your pack. If you have only a regular voltmeter, you can still manually take the readings if you want. Note the length of time it takes for your pack to get to about 1.1 volts per cell (6.6 in this case) and do some multiplication to determine the actual capacity. REMEMBER, YOU MUST MANUALLY DISCONNECT THE PACK AT ABOUT 6.6 VOLTS! FAILURE TO DO THIS WILL RESULT IN YOUR PACK BEING DISCHARGED TO 0 VOLTS AND IT PROBABLY WILL BE RUINED! MONITOR THE SITUATION CAREFULLY!!!

$$\begin{aligned}\text{Plateau voltage from } 7.07\text{v to } 6.65\text{v} \\ \text{Time to discharge} &= 1.75 \text{ hours} \\ \text{Multiplied by discharge rate of } &= .530 \text{ amps/hour} \\ \text{Yields our actual pack capacity of } &.9275 \text{ amp/hour} \\ \text{Or, } 927.5 \text{ ma which means our pack is working great!}\end{aligned}$$

I recommend performing this procedure 2 times to get a good baseline of capacity. Repeating the process every 6 months will help keep your packs healthy for a long time.

I sure hope you have enjoyed this series on Nicd batteries, and if you missed any part of the series(gasp!), I will happily send you a reprint of the entire series if you send me a business size ssae.

73's
Gene, N3RKN

(SEE DRAWING- ON PAGE 5)